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**(54) PRODUCTION OF POROUS CARBON PLATE****(57)Abstract:**

**PURPOSE:** To obtain a production method by which a porous carbon plate having a pore size gradient excellent in phosphoric acid electrolyte retention properties and gas permeability can be produced at a low cost through using a conventional paper-making method and an impregnation method.

**CONSTITUTION:** In this production, at least two paperlike felted sheets having different bulk density from each other within the range of 0.1 to 0.5g/cm<sup>3</sup> are formed by using a mixture of 20 to 95 pts.wt. of organic fiber for producing carbon fiber and 5 to 80 pts.wt. of pulp. Then, these paperlike felled sheets are impregnated with an organic polymer material solution and thereafter, dried to form dried impregnated sheets. Subsequently, with the impregnated sheet formed from the felled sheet having the lowest bulk density and the impregnated sheet formed from the felled sheet having the highest bulk density as the outermost layers, the impregnated sheets are laminated in order of bulk density of the felted sheets from which they are formed, from lower to higher to form a laminate. The resulting laminate is successively subjected to hot-press treatment, oxidation treatment in air and heating and carbonization treatment in an inert gas atmosphere at  $\geq 800^{\circ}\text{C}$  to produce the objective porous carbon plate.

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